

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method of cleaning a ~~surface of a~~ wafer placed in a brush box, comprising:

scrubbing ~~the a~~ top surface of the wafer with a first cleaning brush that applies a chemical solution to the top surface of the wafer while contemporaneously scrubbing a bottom surface of the wafer with a second brush;

~~removing~~ raising the first cleaning brush from contact with the top surface of the wafer; and

delivering a flow of water to the surface of the wafer while the wafer is in the brush box and the first cleaning brush is ~~removed~~ raised from the surface of the wafer, the delivering being configured to substantially remove the chemical solution from the surface of the wafer, wherein the chemical solution on the cleaning brush is maintained at a substantially constant chemical concentration during the scrubbing and during the delivering.

2. (currently amended) A method of cleaning a surface of a wafer as recited in claim 1, wherein the first cleaning brush that applies the chemical solution implements a through the brush (TTB) chemical delivery technique.

3. (Currently amended) A method of cleaning a surface of a wafer as recited in claim 1, ~~wherein the scrubbing is performed in the brush box, the brush box having the cleaning brush and a second cleaning brush~~ further comprising:

rotating the wafer while scrubbing the wafer.

4. (Currently amended) A method of cleaning a surface of a wafer as recited in claim 1, further comprising:

rotating the wafer while delivering the flow of water to the surface of the wafer. ~~3, wherein the second cleaning brush is implemented to scrub a bottom surface of the wafer.~~

5. (currently amended) A method of cleaning a surface of a wafer as recited in claim 1, further comprising:

lowering the second brush from the bottom surface of the wafer while the first cleaning brush is raised from the top surface of the wafer. ~~wherein the removing of the cleaning brush from contact with the surface of the wafer completes a chemical cleaning operation.~~

6. (Original) A method of cleaning a surface of a wafer as recited in claim 1, wherein the delivering of the flow of water to the surface of the wafer further comprises:

setting a first delivery source and a second delivery source over the surface of the wafer in order to deliver the flow of water to the surface of the wafer; and

wherein between about 150 ml/minute and about 750 ml/minute of water flows through each of the first and second delivery sources.

7. (Original) A method of cleaning a surface of a wafer as recited in claim 6, further comprising:

setting a pressure ranging between about 20 psi and about 50 psi for the first delivery source and the second delivery source.

8. (Original) A method of cleaning a surface of a wafer as recited in claim 6, further comprising:

setting a time ranging between about 5 seconds and about 60 seconds for the delivering of the flow of water to the surface of the wafer.

9. (Original) A method of cleaning a surface of a wafer as recited in claim 6, further comprising:

continuing the delivering of the flow of water to the surface of the wafer until a pH of fluids over the surface of the wafer is at least about 4 or greater.

10. (Original) A method of cleaning a surface of a wafer as recited in claim 6, further comprising:

continuing the delivering of the flow of water to the surface of the wafer until a pH of fluids over the surface of the wafer is at most about 8.5 or less.

11. (Previously Presented) A method of cleaning a surface of a wafer as recited in claim 1, wherein the chemical solution includes hydrofluoric acid.

12. (Currently Amended) A method for cleaning a semiconductor wafer, comprising:

introducing the wafer into a brush box;

supporting the wafer in a substantially horizontal plane with a bottom brush and a set of rollers;

scrubbing a top surface of the wafer with a top cleaning brush that applies a chemical solution to the surface of the wafer while contemporaneously scrubbing a bottom surface of the wafer with the bottom brush;

~~removing~~ raising the top cleaning brush from the top surface of the wafer while keeping the wafer in the brush box;

rinsing the top surface of the semiconductor wafer with a cleaning fluid while the wafer is in the brush box and the top cleaning brush is removed from the top surface;

removing the wafer from the brush box; and

repeating the scrubbing with another wafer without rinsing the top cleaning brush.

13. (Original) The method of claim 12, wherein the cleaning fluid is deionized water.

14. (Original) The method of claim 12, wherein the method operation of supporting the wafer with a bottom brush and a set of rollers includes, rotating the wafer at a speed of about 20 rotations per minute.

15. (Previously Presented) The method of claim 12, wherein the top cleaning brush implements a through the brush chemical delivery technique.

16. (Previously Presented) The method of claim 12, wherein the chemical solution includes hydrofluoric acid.

17. (Previously Presented) The method of claim 12, further comprising: setting a time ranging between about 5 seconds and about 60 seconds for the rinsing of the top surface of the wafer with a cleaning fluid.

18. (Previously Presented) The method of claim 12, further comprising: continuing the rinsing of the top surface of the wafer until a pH of fluids over the top surface of the wafer is at least 4 or greater.

19. (Previously Presented) The method of claim 12, further comprising:

continuing the rinsing of the top surface of the wafer until a pH of fluids over the top surface of the wafer is no greater than about 8.5.

20 (new) The method of claim 14, wherein the wafer is rotated about an axis of the wafer.